What is claimed is:

1. A method for detecting a fault current across a piezoelectric actuator (5) of an injector or its high voltage supply lead (6, 6a), the actuator (5), from a voltage supply (1), being charged or discharged to a predefined voltage (Ua) by switches (3a, 3b, 4) that are activated by a control device (2), to control the quantity of fuel injected,
wherein in the time period in which the actuator (5) is charged, the voltage (Ua) across the actuator and/or at the supply lead (6, 6a) is monitored, a change in the voltage (dU) is determined, and a fault is reported when the change in voltage (dU) exceeds a predefined threshold (S).

2. The method according to Claim 1,
wherein the determined fault is weighted using an algorithm.

3. The method according to Claim 1 or 2,
wherein the voltage supply is shut off when the predefined threshold (S) is exceeded.

4. The method according to Claim 3,
wherein the actuator (5) is discharged so rapidly that in particular no contact hazard arises.

5. The method according to one of the preceding claims,
wherein the voltage (Ua) is determined at the beginning and at the end of the injection pause.

6. The method according to Claim 5,
wherein the setpoint voltage specified by the control device (2) is used as the first voltage value at the beginning of the injection pause.

7. The method according to one of the preceding claims, wherein, in a system with multiple injection, voltage monitoring is performed during all injection pulses.

8. The method according to one of the preceding claims, wherein all actuators (5) are shut off and/or discharged in the event of a fault.

9. The method according to one of the preceding claims, wherein the fault diagnosis is designed as a software program.

10. The method according to Claim 9, wherein the software program is a component of a control program for the actuator (5).

11. A device for carrying out the method according to one of the preceding claims, having a voltage source (1), a program-controlled computer (10), and at least one switch (3a, 3b, 4) that is connected in series to the voltage source (1) and in **[sic]** the actuator (5), wherein a measurement unit (9) is provided which detects the voltage (Ua) across the actuator (5) and/or the supply lead (6, 6a) during an injection pause; the computer (10) generates the voltage difference (dU) from at least two detected voltage values and compares the voltage difference to a predefined threshold (S), and when the threshold value (S) is exceeded, the computer (10) is designed to shut off the voltage source (1), discharge the actuator (5), and/or produce a warning signal.